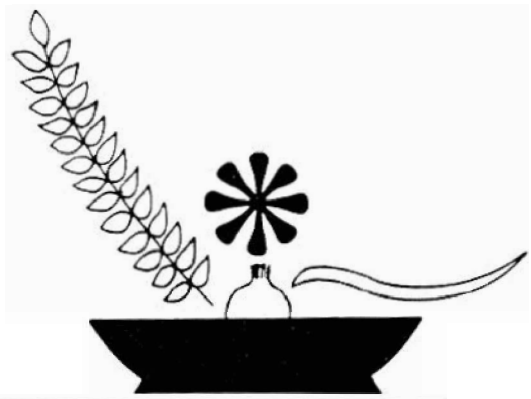
New York State College of Agriculture, a Statutory College of the State University, at Cornell University

4-H Leaflet
H–7–3j

Indoor Gardening



BY E. F. SCHAUFLER*

Dish Gardens and Terrariums

INTRODUCTION

During the summer, you see many types of plants growing outdoors. As fall comes, all but the evergreen trees and shrubs shed their leaves. Annual flowers die after being touched by frost. Perennial flowers ready themselves for winter by going to sleep.

There are many plants you can grow and enjoy in your home during the time nature rests outdoors. There are flowering and foliage-type house plants, but the big attraction in your home can be a pleasing dish garden or terrarium. You can assemble a tiny garden for your home this winter. Dish gardens make wonderful gifts, too.

Activity requirements

1. Assemble at least two dish gardens and two terrariums to the satisfaction of your leader.
2. Attend a meeting on dish gardens and terrariums, or assemble them by following the instructions in this leaflet.
3. Record your finished dish gardens and terrariums in 4-H Project Record R-7-3.
4. Take one picture or more of your gardens to turn in with your record sheet.

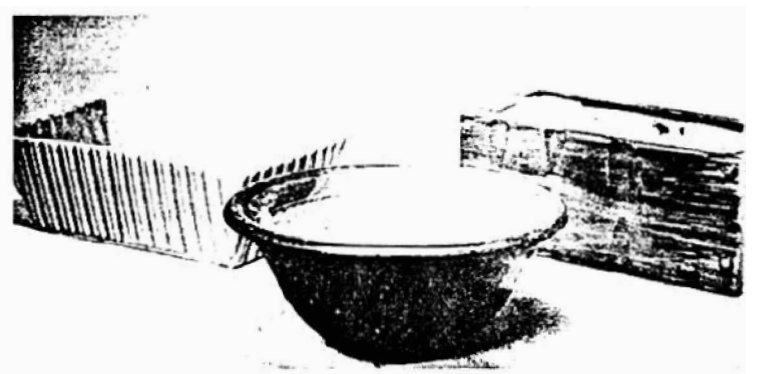
NOTE: *You must complete two other indoor gardening activities for project credit.*

Equipment for the activity

To assemble dish gardens you will need:

1. **Containers** A low metal or pottery container of any shape at least 3 inches deep and not more than 8 inches high. Brass, copper, pewter and iron containers are available in a number of styles. Pottery containers in dark or dull colors are very satisfactory.
2. **Soil** A good house plant soil (1 part sand, 1 part loam, 1 part peat moss) should be used A complete soilless mix can also be used. Exception—for cactus use 2 parts sand, 1 part loam, 1 part peat moss.

Deep containers such as these could be used for dish gardens. They must hold enough soil for six to eight plants.



* *E. F. Schaufler is an Associate Professor in the Department of Floriculture and Ornamental Horticulture, Cornell University*

3. **Fertilizer** To the soil mixture add any 5-10-5 or 4-12-4 fertilizer at the rate of 1 level teaspoonful to a 6-inch pot of soil. (Pot measurements are the diameter of the top of the pot.)
4. **Drainage** A layer of gravel, sand, broken pot, or granulated charcoal is needed in the bottom of the container. This should be at least ¾-inch in depth and may be more if the dish is fairly deep.
5. **Plants** Dish garden plants should be slow growing types. Plants may be selected from the wild or they may be purchased. In general, there are four different dish garden types:

Woodland Gardens

Rattlesnake plantain	Ferns
Partridge berry	Small evergreens
Rock Polypody	Yew
Wintergreen	Juniper
Pippsissewa	Pine
Hepatica	Hemlock
Mosses	Club Mosses
Lichens	Ground pine
Fungus	

Desert gardens

Cactus	Aloes
Optuntia	Sedums
Haworthia	Mesembryanthemums
Echinocactus	Sempervivums
Kalanchoes	Euphorbias
Echeverias	Cotyledons
Crassulas	Agaves
Staphyleas	Sansevierias

Tropical gardens

Pteris fern	Peperomias
Bromelias	Bird's nest fern
African violet	Sansevieria
Podocarpus	Kalanchoe
Acorus	Cliff brake fern
Dracaenas	Zebrina
Philodendrons	Syngonium
Ivy	Scindapsus
Cissus	

Field and meadow gardens

Hawkweed	Mosses
Pussytoes	Lichens
Wild strawberry	Juniper seedlings
Grasses	Cedar seedlings

6. Room in your home where you can keep dish gardens throughout the winter.
7. 4-H Project Record R-7-3.

To assemble terrariums you will need

1. **Containers** Terrariums can be assembled in glass jars, goblets, old-fashioned candy jars, aquariums, fish bowls, or elaborate glass bubbles. A clear glass container and a cover are basic requirements. Cloudy or tinted glass filters out too much light needed for growth, and cuts down on what one can see in the terrarium.
2. **Soil** A mixture of 1 part sand, 1 part peat moss, and 1 part good garden soil, which is the recommended house plant mixture, is a good media for terrarium plants. You may wish to buy a small amount of prepared soil mix, because very little is needed in a terrarium.
3. **Drainage** The terrarium has no drainage hole, but excess water can be seen through the bottom. You may wish to put a layer of granulated charcoal in the bottom. The layer should be no more than ½ inch deep. Drainage material is put in after the bottom and sides of the container are lined with sheet moss, green side out.
4. **Plant Materials** Some of the more common materials are:

Native Materials	Tropical Plant Materials
Rattlesnake Plantain	African Violets
Partridge Berry	Acorus
Rock Polypody	Podocarpus
Pippsissewa	Dracaena
Hepatica	Peperomia
Violets	Creeping Fig
Club Mosses	Scindapsus
Lichens	Zebrina
Shelf Fungus	Sansevieria
Pussytoes	Syngonium
Hawkweed	Philodendron
Wild Strawberry	Bromelids
Ferns	Pteris
Seedling Evergreens	Salaginella
Yew	Ivies
Juniper	Marantha
Cedar	Crassulas
Hemlock	Kalanchoes
Pines	Echeverias
Wintergreen	
Wood's Mosses	

5. Room in your home, out of direct sunlight, where you can keep terrariums throughout the winter. With proper care, terrariums will last as long as three years.
6. 4-H Project Record R-7-3.

A piece of gnarled stump is the background for this woods dish garden. Small plant materials keep everything in scale.

The four cacti and the container carry out a desert theme. White sand is used as a ground cover.

This dish garden of tropical plants can be viewed from all sides. The tall snake plant is exactly in the center of the garden.

HOW TO ASSEMBLE A DISH GARDEN

A dish garden is a number of interesting plants pleasingly arranged in a suitable container. The container may be round, square, oblong or any convenient shape for your selected use. Brass, copper and iron containers should be lined with aluminum foil. Pottery containers in shades of blue, green or brown can also be used.

Not all plant materials grow happily under the same conditions. Just think of a cactus plant, happy in the hot and dry southwestern states, moved into one of the boggy Florida swamps! Soon the cactus would shrink and die because it could not change into a bog plant. Plants that like the same conditions belong in one type of dish garden.

Woods dish gardens

Your woods dish garden is assembled from plants you can collect along roads, hedgerows, and woods. Many of these plants grow in areas of light shade. Therefore, your woods dish garden can be used on a low table, on the mantle, or in another location that does not get full sun. Mosses of the woods are often the major materials in a woods dish garden.

Put a layer of small gravel, pearl chips, sand, or ground-up charcoal in the bottom of your container. This is drainage material. If you water too heavily, the excess water will gather in this drainage layer.

Gather a little more soil than hangs onto the roots of your plants as you carefully dig them up. The extra woods soil you gather is put on top of the drainage layer. Your plants are then planted in the woods soil where they will feel at home.

You may also use tiny appropriate figurines or other center of interest objects in your dish garden. Tiny pottery animals, elves, interesting small stones, gnarled pieces of roots, or a lichen covered rock may be your center of interest. Gaudy-colored or large figurines are generally not appropriate. Figurines of brown or shades of green are best.

Now you come to the exciting part! Arranging your center of interest and collected plants to form a pleasing, attractive dish garden.

Dish gardens viewed from all sides

If your garden is to be viewed from all sides, interest can be gained by having your soil mounded higher in the center. On top of the mound, plant one of your seedling trees. The tallest tree should be about 1½ times the longest dimension of your container. Let your partridge berry vine creep around the inside edge of your container. Place one or two of your tiny pottery animals halfway down the slope. Then place six to eight plants of two or three kinds on the slope. Cover all exposed soil with one type of flat-moss. Practice placing different materials for their best effect.

You may have a tiny piece of mirror as a pond, or a path of sand through your woods dish garden. Be sure your pool or walk is in scale with the figurines.

Dish gardens viewed from one side

If your dish garden is seen from one side only, it can be made level, or to resemble a sloping hillside. Again try various placings for your center of interest to find where it looks best.

Your woods dish garden may look more attractive if you create contrast. Use a piece of bark, a shelf fungus or a gnarled piece of wood behind some of the plants. This should be done only with gardens to be viewed from one side.

The tallest material should be about 1½ times the longest dimension of your container. It may be placed in the center back of your planting, or toward one side.

Desert dish gardens

The best containers for desert dish gardens are light blue, reddish, or buff in color. Most desert plants have a grayish cast from spines or fuzz.

Cacti like dry places and are used to thriving in hot sun and little moisture. The soil mixture placed on top of the drainage layer for your desert garden is 2 parts sand, 1 part garden soil, and 1 part peat moss or compost. The sand lets excess moisture drain out of the soil mixture.

There are many different types and sizes of cacti for an interesting desert garden. Choose only two or three kinds in various sizes. Follow design rules for placing materials. Place the tallest toward the back. The lowest ones look best in front. A piece of bleached wood, or an interesting stone can give you a center of interest, or an interesting cactus plant may be the best center of interest.

For a finished look, cover the soil showing after your plants are planted with a thin layer of white sand, pebbles, stone chips, or crushed flower pots. Water your desert garden no more than once a week.

Tropical dish gardens

House plants that like lots of water are used for tropical dish gardens. You will recognize many of the house plant names suggested for a tropical dish garden.

The soil mixture for a tropical dish garden is 1 part garden soil, 1 part sand, and 1 part peat moss. These materials should be thoroughly mixed before being placed in your container. Do not forget to put a layer of drainage material in the bottom of your container.

If your dish garden is to be seen from all sides, mound soil a little higher in the center, or use your largest plant in the center. Group smaller plants around it. If the garden is to be seen from one side only, use the tall plant toward the back and center.

Many rooted cuttings of house plants can be used in tropical gardens. Here are some common house plants suitable for tropical dish gardens.

Bromelia	Small-leafed Ivies	
African Violet	Peperomia	Croton
Philodendron	Snake Plant	Grape Ivy
Podocarpus	Wandering Jew	

Watch for plants with interesting leaf markings or colors. The plant with the most interesting characteristics would be good for a center of interest.

TERRARIUMS

Terrariums are actually enclosed dish gardens. Clear glass jars, aquariums, fish bowls, goblets, and old-fashioned candy jars that can be closed or covered with a clear material make good containers. Glass containers with small openings are hard to plant.

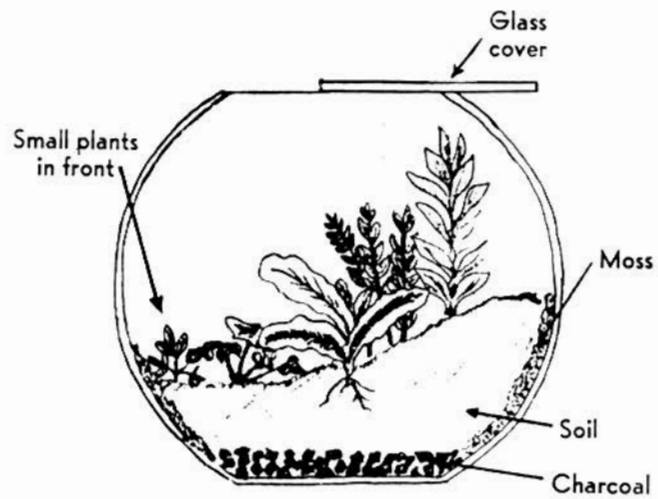
Line the sides of your container, up to the soil line, with sheet moss, green side against the glass.

For drainage, use ground-up charcoal. This will prevent the soil from becoming smelly, if you overwater. Place the charcoal only on the flat bottom portion of your container. If you control the moisture inside the terrarium carefully you do not need to use charcoal.

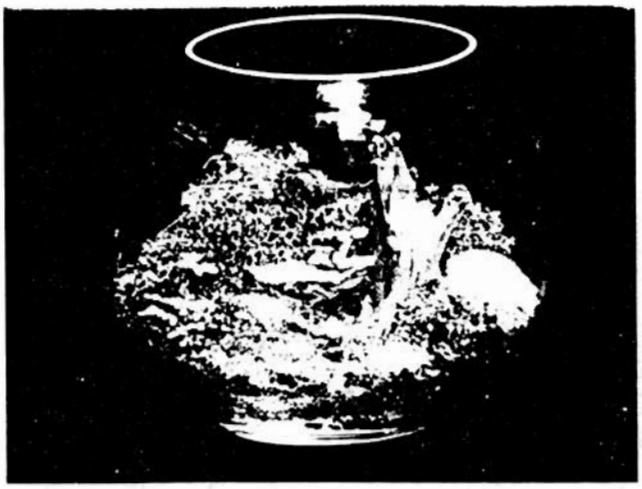
Your soil mixture (1 part soil, 1 part sand, and 1 part peat moss) goes on top of the charcoal. You may need only a handful or two of your soil mixture. The mixture is used only to support the plants.

Here are native and tropical plants that grow very well in a terrarium.

Native	Tropical or Greenhouse
Partridge berry	Ferns in variety
Pippsissewa	Dracaena
Hepatica	Fittonia
Violets	Philodendron
Mosses	Strawberry Begonia
Shelf Fungus	Small-leafed Begonias
Hawkweed	Creeping Fig
Wild Strawberry	Chinese Evergreen
Seedling Evergreens	
Wintergreen	



This diagram shows how a terrarium is put together.



A small piece of stump, a deer figurine, rock and woods mosses are used in this hillside terrarium.

A gallon paste jar resting on its side is used for this hillside terrarium. All materials are in scale.

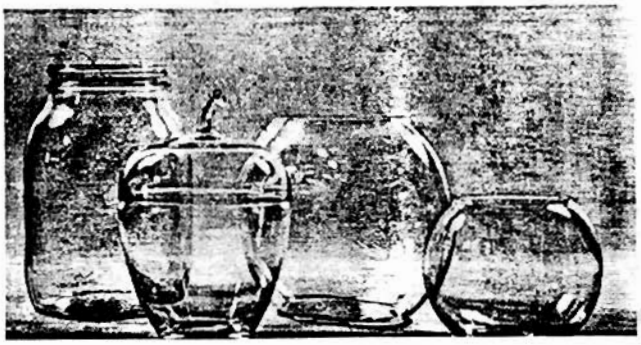
Do not mix native and tropical materials. Woods moss can be used as a ground cover in a tropical terrarium. Otherwise, make a terrarium of either native or tropical materials. You can use slips as plants.

Do not crowd your plants. Open spots where soil shows after plants are in can be covered with pieces of moss.

A small figurine, a lichen - covered rock, an interesting piece of bark or root may be a center of interest. A few plants, pleasingly arranged, are much more satisfactory than a jumbled mass of crowded plants.

Do not let water stand in the bottom of your terrarium. If it does, remove the cover and let it evaporate. Your terrarium will need only one or two teaspoons of water a month. Place your terrarium in a light place and enjoy it throughout the winter.

Plan to collect plant material for woods dish gardens and terrariums before heavy snowfall comes in your area. Usually September and October are good months for this activity. See Cornell Extension Bulletin 1029 *How to Make a Terrarium*, for more information.



Clear glass containers are suitable for terrariums. They must be large enough for you to reach inside them to place materials.

Small figurines, interesting rocks, and pieces of wood can be used for a center of interest or background in dish gardens or terrariums.

Single copies free to residents of New York State.
Additional copies 10 cents each.

Cooperative Extension, New York State College of Agriculture at Cornell University and the U.S. Department of Agriculture cooperating. In furtherance of Acts of Congress May 8, June 30, 1914. E. H. Smith, Director of Cooperative Extension, Ithaca, New York.

Reprinted September 1970, CP-10M